

In re Patent Application of
Stephen E. Frazier
Serial No. **09/923,764**
Filed **August 7, 2001**

Remarks

Applicant herein responds to the Examiner's concerns as expressed in the pending Office action.

The Pending Claims Are Definite Under §112

The Examiner noted that claims 77 and 79 are duplicates of claims 65 and 75. This was due to a typographical error wherein the referenced independent claim was incorrect for claims 77 and 79. These claims have been amended to recite the proper reference to their independent claim 76. Accordingly, the Examiner's concern has been addressed.

The Examiner also indicates that the meaning of the term "enhanced" in claims 64 and 76 is unclear. Applicant respectfully points to the filed application, wherein the meaning of this term is explained in the specification at lines 25-26 on page 2, lines 5-6 on page 3, lines 14-17 on page 8, and lines 20-24 on page 9. Applicant believes those skilled in the art will readily understand the term "enhanced" after reading those portions of the written specification, and in view of the clarifying amendment to claim 64.

The Examiner has further expressed concern that there is no support for the temperature ranges claimed. Applicant points to lines 4-5 on page 9, and lines 25-26 on page 10, where support for these ranges is found.

Regarding the use of the term "approximately", the Examiner has expressed concern that there is no support for this term. Applicant respectfully suggests that the term "approximately" is a common word in the English language, which has an ordinary meaning understood by all without an explanation being required in the written specification. Additionally, those skilled in the art recognize that any measurement, such

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as a temperature measurement, will display some variability when repeated over time. Further, due to the unpredictability known to occur in the chemical arts, some variation in the exact temperature employed in the disclosed method is likely to lack substantial significance in the process. Accordingly, when expressing a measurement it is appropriate and prudent to put the public on notice of such effects through the use of the qualifier "approximately."

For those reasons, Applicant asserts that the claims are definite, and respectfully requests that the Examiner withdraw the claim rejections under 35 USC §112.

The Claims Are Not Obvious Over The Cited Reference

The Examiner has cited US Patent No. 5,288,306 to Aibe et al. as making the claims obvious. While the Examiner has recognized that the Aibe et al. "reference does not explicitly teach drying at the claimed temperature", the Examiner is of the view that the reference describes temperatures which overlap the claimed temperature. Applicant respectfully disagrees for the following reasons.

At column 5, lines 44-64, the Aibe et al. reference describes how to make the activated carbon honeycomb of the invention. At lines 61-64, the reference states "[i]f necessary, the activated carbon honeycomb supporting iodine and/or inorganic iodide may be *dried or sintered*." Emphasis added. The reference also describes at lines 55-58 that "the activated carbon honeycomb may be dusted with iodine in the form of solid powder and then heated to a temperature of 100° to 115° C." Applicant points out that there is no temperature at all expressed or suggested for drying or sintering the activated carbon. Applicant also points out that the temperature of 100° to 115° C is specifically used by Aibe et al. when the carbon is "dusted with iodine in the form of solid powder." This

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particular citation within the Aibe et al. reference, therefore, does not describe or even suggest the method and temperatures claimed by Applicant in independent claims 64 and 76.

At column 8, lines 3-5, the Aibe et al. reference again discusses a drying temperature. In this case, a temperature between 40° to 500° C, preferably 50° to 500° C, and most preferably 60° to 500° C. These temperatures, however, are applicable only to drying an activated carbon honeycomb supporting a platinum group element, and not to activated carbon treated with an iodide (see column 7, line 60 et seq.). There is no description of a temperature, combination of temperatures, or temperature range suggested for activated carbon enhanced with an iodide.

Further, at column 8, lines 23-31, Aibe et al. describe yet another temperature range, but only for a carbon honeycomb supporting a platinum group element "in combination with at least one member of the group consisting of Ti, V, Cr, Mn, Fe, Co, Ni, Cu and Ag (see column 8 at lines 10-13). Again, this description does not apply to activated carbon treated with an iodide, and there is no suggestion provided for a temperature, combination of temperatures, or temperature range applicable to activated carbon enhanced with an iodide.

Aibe et al. further describe the preparation of an activated carbon honeycomb supporting iodine. At Example 1, column 27, lines 59-62, the reference describes drying activated carbon which has been sprayed with an aqueous solution of I_2O_5 . The temperature described is 110° C. At Example 2, column 28, lines 29-32, the reference describes the same temperature of 110° C for drying a phosphoric acid sprayed carbon honeycomb. Still, at column 28, lines 60-63, Aibe et al. dry at 110° C a carbon honeycomb sprayed with an aqueous solution of KI.

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The Examiner has indicated that the Aibe et al. reference describes temperature ranges which overlap the claimed temperatures. However, as shown above, the temperature ranges described by Aibe et al. are applicable only to activated carbon combined with platinum and with platinum in combination with other selected metals. When describing drying of activated carbon treated with iodine or iodide, the Aibe et al. reference is completely silent and does not teach a temperature, as shown at column 5, lines 44-64. Contrary to the Examiner's assertion, there is, therefore, no temperature range described by Aibe et al. which overlaps the claimed temperature with regard to activated carbon treated with iodine or an iodide.

Accordingly, the cited reference to Aibe et al. fails to establish a *prima facie* case of obviousness against the pending claims, since the reference does not teach all the limitations found in the claims. By the Examiner's own recognition, Aibe et al. "does not explicitly teach drying at the claimed temperature." As Applicant has pointed out above, the Aibe et al. reference, in fact, does not disclose temperatures which overlap the claimed temperature, because the disclosed temperature ranges are applicable only to carbon treated with platinum and with platinum combined with another metal.

For those reasons, Applicant respectfully requests that the Examiner withdraw the obviousness rejection of the claims under 35 USC §103(a).

Conclusion

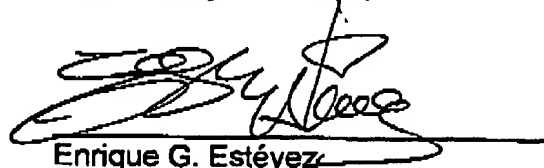
Applicant, therefore, believes the claims are patentable, that the application is in condition for allowance, and respectfully requests such allowance.

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If the further prosecution can be facilitated through a telephone conference between the Examiner and the undersigned, the Examiner is respectfully requested to telephone the undersigned at his convenience.

Respectfully submitted,



Enrique G. Estévez
Reg. No. 37,823
Allen, Dyer, Doppelt, Milbrath
& Gilchrist, P.A.
255 S. Orange Ave., Suite 1401
P. O. Box 3791
Orlando, Florida 32802
(407) 841-2330

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